

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH. AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IS THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT,

IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT
THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT.

SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS
OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS
BY THE OWNER OF THE RIGHTS. (§4 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY	
Blanco 3363	Cotton	PVPO NUMBER 7151	
3. GENUS AND SPECIES NAME	4. FAMILY NAME (Botanical)	FILING DATE 4/1/71	TIME 1
Gossypium hirsutum	Malvaceae	FEE RECEIVED \$750.00	CHARGES A.M. P.M.
5. NAME OF APPLICANT	6. DATE OF DETERMINATION	7. TELEPHONE AREA CODE AND NUMBER	
AGRIGENETICS CORP. Growers Seed Association JSH 5/5/86	Summer of 1965	806-747-4125	
7. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)	8. DATE OF INCORPORATION	9. DATE OF INCORPORATION	
Box 1656 Lubbock, Texas 79408	Texas	7-9-65	
10. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION (Corporation, partnership, association, etc.)			
Cooperative Corporation			
11. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:			
Joe M. Dwyer & George Babcock Box 299 & Box 1656 Crosbyton, Texas 79322 Lubbock, Texas 79408 (Plant Breeder for GSA) (Manager of GSA) MR. Noble Koepf			

12. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

☒ 12A. Exhibit A, Origin and Breeding History of the Variety (See Section 52, P.L. 91-577)☒ 12B. Exhibit B, Botanical Description of the Variety☐ 12C. Exhibit C, Objective Description of the Variety☒ 12D. Exhibit D, Data Indicative of Novelty☒ 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

The applicant declares that a viable sample of his or seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. (See Section 52, P.L. 91-577).

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? (See Section 83(a), P.L. 91-577); If "Yes," answer 14B and 14C below. ☐ YES ☒ NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? ☒ YES ☐ NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? 3

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act (P.L. 91-577).

3-29-71

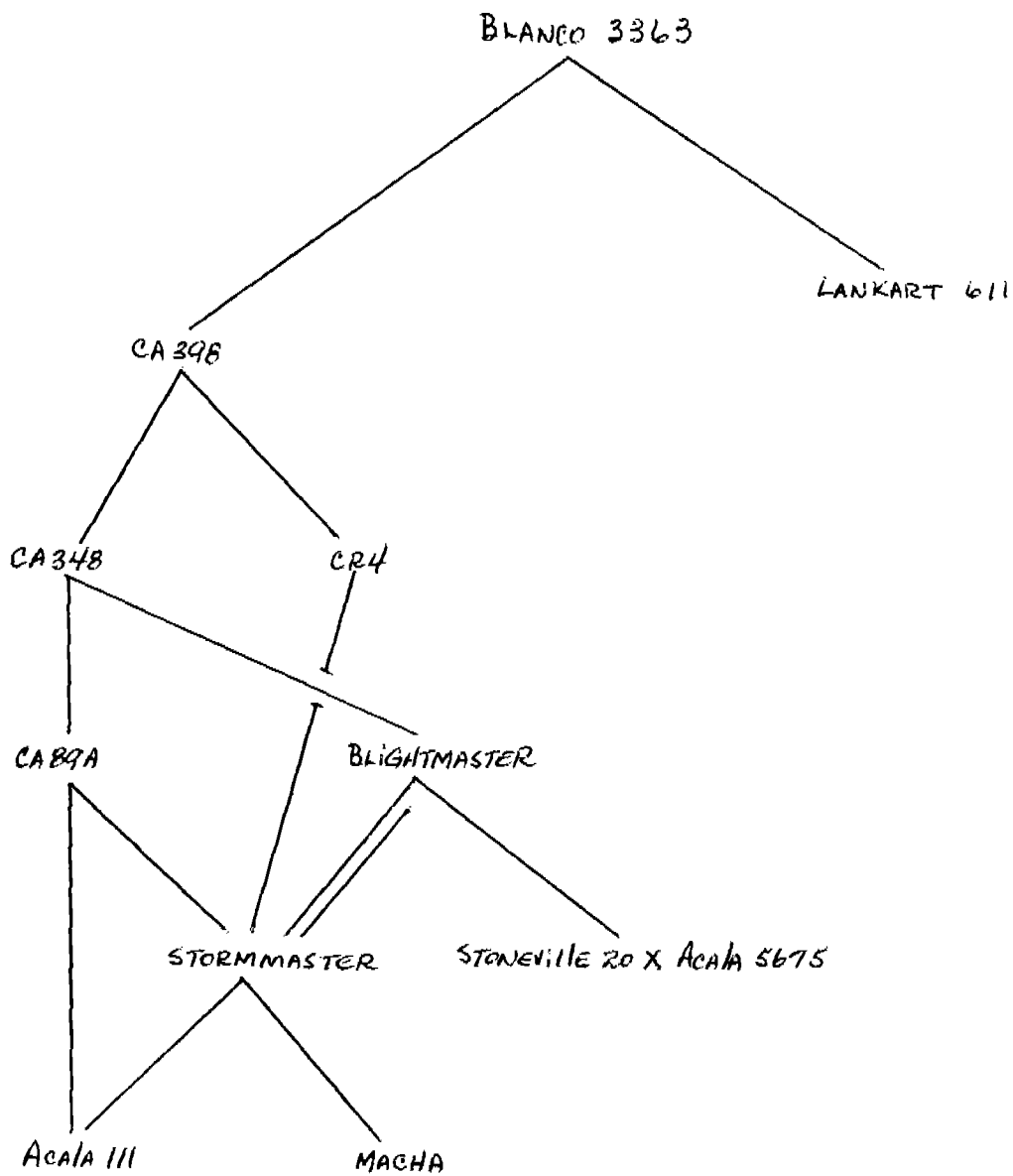
(DATE)

Joe M. Dwyer

(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)



CR-4 carried all of the plant characteristics of Stormmaster with the exception that it was blight tolerant.

CA398-----A strain developed from a cross between CA348 and CR-4. The strain is blight tolerant and stormproof. It has a staple length of about 1 1/16 inch and a strength of about 90,000 p.s.i.

Lankart 611---A closed pedigreed, stormproof variety which has excellent yield potential and has a wide area of adaptability as to the regions in which it performs well.

Blanco 3363---An early, highly stormproof, medium-long staple variety which is well adapted for stripper harvest. The variety is blight resistant (tested as resistant on races 1, 2, 5 and 6) and has good seedling vigor. It has looked very good under broadcast type plantings with high plant populations and has a wide area of adaptation as to the regions in which it performs well. It was selected from a cross made between CA398 and Lankart 611.

LINES USED IN THE DEVELOPMENT OF BLANCO 3863

- Acala III-----A western variety of the Acala Type which was of the long staple, open boll type. Acala III was not resistant to bacterial blight. (Xanthomonas malvacearum) Acala III was not adapted to stripper type harvest.
- Macha-----A storm resistant variety selected out of the Half and Half variety about 1935. The distal end of many of the lint hairs was so firmly attached in wrinkles inside the bur that the locks did not shake out and drop to the ground. The tight adherence of the locks in the burs did not interfere with cleaning the cotton in the ginning process.
- Stormmaster---A variety developed from a cross made at Lubbock, Texas, between Macha and one of the western varieties (Acala III). This gave an increase in staple length over Macha, but Stormmaster was not blight tolerant. The variety was storm resistant.
- CA89A-----A strain developed from a cross between Acala III and Stormmaster. It was a storm-proof strain which was not blight tolerant, but had an increased staple length over Stormmaster.
- Blightmaster--A variety developed from a cross between Stormmaster and a progeny of a cross between Stoneville 20 X Acala 5676. Stoneville 20 was a blight tolerant variety and this characteristic was transferred to the Blightmaster variety.
- CA348-----A blight tolerant, stormproof strain resulting from the corss of CA89A and Blightmaster.
- CR-4-----A selection made from Stormmaster by the Oklahoma Agricultural Experiment Station.

The seed obtained from the cross made in 1961 between CA398 and Lankart 611 was planted in a progeny row in 1961, and subsequent segregation and selection followed in 1962-63-64. The progeny was carried as strain CA563 and as a stabilized strain row was noted in 1964 the cotton (later to be called Blanco 3363) was put in a field increase plot.

As the seed was increased and tested during the years of 1965-70 heavy rogueing pressures were applied to eliminate any variants from the population norm. These variants were of an extremely open boll type coupled with excessive height. At the time the strain was put into field increase the variants composed approximately 1% of the population but by 1968 the occurrence of any variants was extremely minimal and in the 1970 Texas Certification Tests the variety showed only .004% off types.

As evidence of stability the variety, Blanco 3363, was entered into the Texas Certification program in 1968 and was tested during the 1968-69-70 growing seasons. The variety proved stable during the three year testing program and was admitted as a certified variety at the end of the 1970 crop year. The variety has also been admitted as a patented variety under the Texas Patent act. Records of official inspections for the three years are enclosed.

with letter
1/10/74

EXHIBIT B

BLANCO 3363

Seed: - Seed of Blanco 3363 are of medium size with a seed index of 10 to 12. Seed are well covered with linters.

Seedlings: - Blanco 3363 has good seedling vigor.

Root System: - Blanco 3363 has a strong tap root with average laterals.

Plant Type: - Blanco 3363 is of short height, has short internodes, and has medium to short fruiting branches. Fruiting branches are usually 1 to 3 vegetative with spaced culture.

Plant Pubescence: - Blanco 3363 has light plant pubescence.

Leaves: - Leaves are medium size with dense foliage and have a medium deep cut with cupping.

Flowers: - Blanco 3363 has cream pollen and petals. Abundant anthers are present with the style only very slightly protruding. Medium size bracts are present.

Bolls: - Bolls are of medium size (5.85 grams per boll) and have a slightly pointed shape. Bolls are storm resistant. Both 4 and 5 lock bolls are present with the majority being 5 lock.

Lint: - Blanco 3363 has a lint turnout (seed cotton) of 31% to 35%, a lint index of 6.0 to 6.5, a 2.5% span length of 1.00 - 1.10 inches, a uniformity ratio of 41% to 45%, and a fiber strength of 85,000 to 93,000 PSI. The fiber fineness or micronaire is approximately 3.70 (based on mature fiber).

Maturity: - First bloom of Blanco 3363 occurs approximately 55 - 60 days after planting. The cotton has a boll period of 50 - 55 days

under optimum conditions and is determinate in its fruiting pattern. The crop matures in 140 to 160 days.

Disease Tolerance: - Blanco 3363 is blight resistant.
(Tested as resistant on Races 1, 2, 5, and 6).

Mature Plant Comparison: - As stated before, Blanco 3363 is of short height, has short internodes, and has medium to short fruiting branches. Fruiting branches are usually 1 to 3 vegetative with spaced culture. The general mature plant characteristics are very similar to Lankart 57 with about the only visible difference being that Blanco 3363 has a tighter, more stormproof boll than Lankart 57.

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
COTTON (GOSSYPIMUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Growers Seed Association

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

P. O. Box 1656
Lubbock, Texas 79408

FOR OFFICIAL USE ONLY

PVPO NUMBER

7151

VARIETY NAME OR TEMPORARY
DESIGNATION

Blanco 3363

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. SPECIES:

1 = GOSSYPIMUM HIRSUTUM

2 = GOSSYPIMUM BARBADENSE

2. AREA(S) OF ADAPTION (0 = Not Tested, 1 = Not Adopted, 2 = Adopted):

EASTERN

DELTA

CENTRAL

HIGH PLAINS

EL PASO AREA

WESTERN LOW HOT VALLEYS

SAN JOAQUIN

OTHER (Specify)

3. MATURITY (50% Open Boll):

NO. OF DAYS EARLIER THAN

1 = COKER 310

2 = DELTAPINE 16

3 = STONEVILLE 213

NO. OF DAYS LATER THAN

4 = PAYMASTER 111

5 = ACALA 1517-70

6 = ACALA SJ-1

7 = LANKART 57

8 = OTHER (Specify)

4. PLANT HABIT:

1 = SPREADING

2 = INTERMEDIATE

3 = COMPACT

1 = FOLIAGE SPARSE

2 = DENSE

3 = OTHER (Specify)

5. PLANT HEIGHT:

CM. SHORTER THAN

1 = COKER 310

2 = DELTAPINE 16

3 = STONEVILLE 213

CM. TALLER THAN

4 = PAYMASTER 111

5 = ACALA 1517-70

6 = ACALA SJ-1

7 = LANKART 57

8 = OTHER (Specify)

6. MAIN STEM:

1 = LAX

2 = ASCENDING

3 = ERECT

CM. TO FIRST
FRUITING BRANCHNO. OF NODES TO FIRST FRUITING BRANCH
(from cotyledonary node)

7. LEAF:

CM. WIDTH OF
WIDEST LEAVES
AT MATURITY

8. LEAF PUBESCENCE:

1 = GLABROUS (HAIRS AS SPARSE AS D₂ SMOOTH)

2 = SMOOTH LEAF (DELTAPINE SMOOTH LEAF)

3 = PUBESCENT (STONEVILLE 213)

4 = HEAVY PUBESCENCE (H₁ OR H₂)

5 = OTHER (Specify)

Light Pubescence

9. LEAF COLOR:

1 = VIRESCENT YELLOW

2 = LIGHT GREEN

3 = DARK GREEN (Acala-442)

4 = RED

5 = OTHER (Specify)

10. LEAF TYPE:

1 = NORMAL

2 = OKRA

3 = SUPER OKRA

4 = OTHER (Specify)

11. FLOWER:

1 = NECTARILESS

2 = NECTARIED

Petals:

1 = CREAM

2 = YELLOW

Pollen:

1 = CREAM

2 = YELLOW

12. FRUITING BRANCH TYPE:

1 = CLUSTER

2 = SHORT

3 = NORMAL

1 = DETERMINATE

2 = INDETERMINATE

13. GOSSYPOL CONDITION:

1 = GLANDLESS

2 = REDUCED GLANDS

3 = NORMAL GLANDS

4 = OTHER (Specify)

1 = NORMAL BUD GOSSYPOL

2 = HIGH BUD GOSSYPOL

14. SEEDS: = 14.0

±

SEED INDEX

(Fuzzy seed basis)

Seed Fuzz:

1 = SPARSE (GREGG 35)

2 = MODERATE (DPL-15) 11

3 = HEAVY (ACALA SJ-1)

4 = OTHER (Specify)

15. BOLLS:

<input type="text" value="2"/> Locules:	1 = 3-4 2 = 4-5	<input type="text" value="2"/> <input type="text" value="8"/> NO. SEEDS PER BOLL	<input type="text" value="3"/> <input type="text" value="2"/> <input type="text" value="7"/> LINT PERCENT	<input type="text" value="3"/> <input type="text" value="5"/> MM. DIAMETER
<input type="text" value="2"/> Pitted:	1 = NONE 2 = FINELY 3 = COARSELY	<input type="text" value="5"/> <input type="text" value="8"/> <input type="text" value="5"/> GRAMS SEED COTTON PER BOLL	<input type="text" value="2"/> Breadth:	1 = BROADER AT BASE 2 = BROADER AT MIDDLE
<input type="text" value="2"/> Type:	1 = STORMPROOF (WESTBURN 70) 2 = STORM RESISTANT (LANKART 57) 3 = OPEN (DELTAPINE 16)	<input type="text" value="1"/> Shape:	1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH	

16. BRACTEOLAS:

<input type="text" value="3"/> Breadth:	1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH		
<input type="text" value="1"/> Teeth:	1 = FINE 2 = COURSE	<input type="text" value="4"/> Teeth:	1 = 3-4 2 = 5-7 3 = 8-10 4 = OTHER (Specify) <u>7-9</u>

17. YIELD: Compared to—

<input type="text" value="0"/> <input type="text" value="6"/> <input type="text" value="1"/> PERCENT LESS THAN	<input type="text" value="1"/> } 1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213
<input type="text" value="2"/> <input type="text" value="8"/> <input type="text" value="4"/> PERCENT MORE THAN	<input type="text" value="7"/> } 4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1 7 = LANKART 57

18. FIBER LENGTH (Complete one or more of the following and give the means):

<input type="text" value="4"/> <input type="text" value="3"/> SPAN LENGTH 50%	<input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="5"/> SPAN LENGTH 2.5%	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> U.H.M. LENGTH
<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> MEAN LENGTH	<input type="text" value="3"/> <input type="text" value="3"/> STAPLE LENGTH 32nd INCHES	
<input type="text" value=""/> <input type="text" value=""/> UNIFORMITY RATIO (MEAN/U.H.M.)	<input type="text" value="4"/> <input type="text" value="1"/> UNIFORMITY INDEX (50% SPAN/2.5% SPAN)	

19. FIBER STRENGTH AND ELONGATION:

<input type="text" value="0"/> <input type="text" value="9"/> <input type="text" value="1"/> 1,000 P.S.I.	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> ELONGATION E_1	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> STILOMETER T_0
<input type="text" value="3"/> <input type="text" value="7"/> <input type="text" value="0"/> MICRONAIRE READING	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> YARN STRENGTH (Give test method)	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> STILOMETER T_1

20. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="1"/> VERTICILLIUM WILT	<input type="text" value="0"/> FUSARIUM WILT	<input type="text" value="0"/> ROOT KNOT NEMATODE	<input type="text" value="2"/> BACTERIAL BLIGHT (Race 1)
<input type="text" value="2"/> BACTERIAL BLIGHT (Race 2)	<input type="text" value="0"/> ASCOCHYTA BLIGHT	<input type="text" value="0"/> PHYMATOTRICHUM ROOT ROT	<input type="text" value="0"/> RHIZOCTONIA
<input type="text" value="0"/> ANTHRACNOSE	<input type="text" value="0"/> RUST	<input type="text" value="0"/> OTHER (Specify) _____	

21. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="0"/> BOLL WEEVIL	<input type="text" value="0"/> APHID	<input type="text" value="0"/> FLEAHOPPER	<input type="text" value="0"/> LEAFWORM
<input type="text" value="0"/> FALL ARMYWORM	<input type="text" value="0"/> GRASSHOPPER	<input type="text" value="0"/> LYGUS	<input type="text" value="0"/> PINK BOLLWORM
<input type="text" value="0"/> STINKBUG	<input type="text" value="0"/> THRIP	<input type="text" value="0"/> CUTWORM	<input type="text" value="0"/> SPIDERMITTE
<input type="text" value=""/> OTHER (Specify) _____			

REFERENCES: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (1) Brown, Harry B., and J. O. Ware, 1958, Cotton, McGraw-Hill Book Company, Inc., New York.
- (2) Lewis, C. F., and H. H. Ramey, Jr., 1971, 1970 Regional Cotton Variety Tests, ARS 34-130, United States Department of Agriculture.

COLORS: Nickerson's or any recognized color fan may be used to determine flower color of the described variety.

Exhibit D

'Blanco 3363'

PV#7100051

13D. Exhibit D:

'Blanco 3363' is most similar to 'Lankart 57' in plant characteristics but differs in having a tighter, more stormproof boll, a 1.67 grams smaller boll (5.85 versus 7.52), and is resistant to Bacterial blight race 1 while 'Lankart 57' is not. 'Blanco 3363' also has a 0.03 inch longer (1.05 versus 1.02), 16,000 PSI stronger (91,000 versus 75,000), and 0.30 finer (3.70 versus 4.00 micronaire) fiber.

5-24-74

(Date)

Thale Kopp

(Signature)

Director of Research

(Official Capacity)

DATA INDICATIVE OF NOVELTY

As an indication of novelty, I would like to compare the fiber properties of Blanco 3363 to Lankart 57. As previously stated, Blanco 3363 is very similar to Lankart 57 in mature plant characteristics and it is only in the fiber properties that the two varieties widely differ.

FIBER PROPERTY COMPARISON

Strength - Blanco 3363 has consistently shown to have higher strength than Lankart 57. Data from the 1969 Irrigated Cotton Variety Test conducted at Lubbock, Texas, Lankart 57 had a PSI of 75.6 X 1000 while Blanco 3363 had a PSI of 92.3 X 1000. (see attached sheets from 1969 Research Report No. 70-1) In 1970 irrigated test, Lankart 57 had a PSI of 75.0 X 1000 while Blanco 3363 had a PSI of 102.0 X 1000. (see attached sheets)

Length - In 1969 tests, Blanco 3363 showed a 2.5% span of 1.10 compared to Lankart 57 with a 2.5% span of 1.04. (see attached sheets) In 1970 tests, Blanco 3363 showed a 2.5% span of 1.00 compared to Lankart 57 with a 2.5% span of .99. (see attached sheets) Blanco 3363 consistently shows a slight length increase over Lankart 57.

Disease Tolerance - In tests conducted by Dr. Levon Ray of the Lubbock Experiment Station, Blanco 3363 showed resistance to Race 1 of bacterial blight while Lankart 57 did not prove resistant to this Race.

Boll Size - Blanco 3363 shows to have a smaller boll size (5.92) than Lankart 57 (7.51) in the Lubbock test of 1969 as well as in the Tulia, Texas test where Blanco 3363 had a boll size of 5.79 compared to Lankart 57 with 7.54, resulting in an average of 5.85 for Blanco 3363 and 7.52 for Lankart 57.

Micronaire - The micronaire reading of Blanco 3363 is
consistently lower than Lankart 57.
(see attached sheets)

-2-

STATEMENT OF OWNERSHIP

Blanco 3363 is a variety selected from a cross between CA398 and Lankart 611. The original cross was made by Dr. Levon Ray of the Texas Agricultural Experiment Station at Lubbock, Texas. In 1965 the strain CA563 (later to be called Blanco 3363) was planted on the Don Anderson farm near Crosbyton, Texas.

After observing the strain in 1965 the staff of Delta, Inc., a seed company which Mr. Anderson owned at the time realized that the strain might have potential as an improved variety. The staff of Delta, Inc. in the years of 1966-67-68 applied heavy rogueing pressures toward the stabilization of a uniform population. The seed was released as breeders seed to Delta, Inc. in 1968 from the Texas A & M Experiment Station System and was filed on for certification by Delta, Inc. under the Texas Certification Program.

In 1969 Delta Inc. was purchased by Growers Seed Association of Lubbock, Texas, and with the purchase, Blanco 3363 became the property of Growers Seed Association of Lubbock, Texas.

As of date the variety Blanco 3363 is wholly owned by Growers Seed Association of Lubbock, Texas.

ASSIGNMENT OF
CERTIFICATES AND APPLICATIONS OF PLANT VARIETY PROTECTION

WHEREAS, GROWERS SEED ASSOCIATION, a Marketing Cooperative Association organized under the laws of the State of Texas, whose address is P.O. Box 1656, Lubbock, Texas 79408, did make applications for Certificates of Plant Variety Protection with the Plant Variety Protection Office of the United States Department of Agriculture which Applications and Certificates are numbered and bear the dates as follows:

7400089	November 24, 1975	for 'GSA 71'
76TQ007	March 18, 1977	for 'GSA 75'
710051	September 30, 1974	for Blanco 3363
740088	November 24, 1975	for Stripper 31A
790071	April 24, 1980	for 'GSA 74'
Pending Application		for 'GSA 78'

WHEREAS, GROWERS SEED ASSOCIATION is the sole and exclusive owner of said Applications and Certificates of Plant Variety Protection, and all interests therein, to and under the same and have the sole right to make this assignment; and

WHEREAS, TEXAS BANK FOR COOPERATIVES, a corporation organized under the laws of the United States of America, whose mailing address is P.O. Box 1424, Houston, Texas 77001, is desirous of acquiring the entire right, title and interest in and to the said Applications and Certificates of Plant Variety Protection;

NOW, THEREFORE, in consideration of and exchange for the sum of Ten Dollars and no/100 (\$10.00) paid in hand by GROWERS SEED ASSOCIATION, and other good and valuable consideration, in receipt of which is hereby acknowledged, GROWERS SEED ASSOCIATION, has sold, assigned, transferred and sent over to the TEXAS BANK FOR COOPERATIVES, the said Applications and Certificates of Plant Variety Protection, the same to be held and enjoyed by the TEXAS BANK FOR COOPERATIVES for its own use and enjoyment and the use and enjoyment of its successors, assigns or other legal representatives, to the end of the term for which said Applications and Certificates of Plant Variety Protection are granted or reissued, as fully and entirely as the same would have been held and enjoyed by GROWERS SEED ASSOCIATION if this assignment and sale had not been made, together with all claims for damages by reason of past infringement of said Applications and Certificates with the right to sue for and collect the same for its own use and enjoyment and

for the use and enjoyment of its successors, assigns or other legal representatives.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 28th day of July, 1981.

GROWERS SEED ASSOCIATION

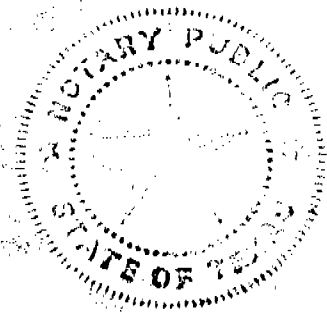
By R. D. McCallister
Chairman

THE STATE OF TEXAS I

COUNTY OF LUBBOCK

BEFORE ME, the undersigned authority, on this day personally appeared R. D. McCallister, Chairman of GROWERS SEED ASSOCIATION, a corporation, who acknowledged to me that he executed the above and foregoing instrument as the act and deed of said corporation and for the purposes and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 28th day of July, 1981.



C. C. Bloodworth
Notary Public in and for LUBBOCK
County, TEXAS.
C.C. Bloodworth

Expires 5-21-84

PLANT VARIETY PROTECTION CERTIFICATES

WHEREAS, GROWERS SEED ASSOCIATION, a marketing cooperative association organized under the terms of the State of Texas, whose address is P.O. Box 1656, Lubbock, Texas 79408, did make applications for and secure Certificates of Registration with the United States Plant Variety Protection Office which Certificates are numbered and bear the dates as follows:

<u>Plant Variety Registration No.</u>	<u>Variety</u>	<u>Filing Date</u>
7400089	for 'GSA 71'	November 24, 1975
76TQ007	for 'GSA 75'	March 18, 1977
7100051	for Blanco 3363	September 30, 1974
7400088	for Stripper 31A	November 24, 1975
7900071	for 'GSA 74'	April 24, 1980
7900072	for 'GSA 78'	June 19, 1980

WHEREAS, the TEXAS BANK FOR COOPERATIVES, a bank for cooperatives duly organized under the Farm Credit Act as amended, whose mailing address is P.O. Box 1424, Houston, Texas 77001, is the owner and holder of certain indebtedness of GROWERS SEED ASSOCIATION which are secured by certain liens and security interests including but not limited to general intangibles consisting of all trade names, trademarks, service marks, goodwill, germ plasm, proprietary seed rights, trade secrets, and all seed varieties and hybrids (the "Property"); and

WHEREAS, the maturity of the indebtednesses has now been accelerated and is now past due and owing and the TEXAS BANK FOR COOPERATIVES has taken possession of the collateral covered by the security instruments, and has the right pursuant to the security instruments and applicable laws

to pursue its remedies against the collateral, including without limitation, the selling and offering for sale thereof, as provided for under the security instruments and applicable law; and

WHEREAS, the TEXAS BANK FOR COOPERATIVES, as secured party, has exercised its right in the collateral of GROWERS SEED ASSOCIATION, as debtor, and is now desirous of selling certain items of collateral under lien at a private sale pursuant to Article 9 of the Texas Business and Commerce Code; and

WHEREAS, the TEXAS BANK FOR COOPERATIVES has the sole right to make this assignment; and

WHEREAS, AGRIGENETICS CORPORATION ("Buyer"), a corporation organized under the laws of the State of New Mexico, whose mailing address is 14142 W. 20th Avenue, Golden, Colorado 80401, is desirous of acquiring the entire right, title and interest in and to general intangibles formerly owned by GROWERS SEED ASSOCIATION together with the Certificates of Plant Variety Protection as identified from the TEXAS BANK FOR COOPERATIVES ("Seller"), through such a private sale under Article 9 of the Texas Business and Commerce Code.

NOW, THEREFORE, in consideration of and exchange for the sum of Ten and No/100 Dollars (\$10.00) paid in hand by Buyer, and other good and valuable considerations, the receipt and sufficiency of which is hereby acknowledged, the Seller, as secured party, has sold, assigned, transferred and sent over, through a private sale under Article 9 of the Texas Business and Commerce Code, to Buyer, all the Seller's interest and all the GROWERS SEED ASSOCIATION'S interest in the above-described Certificates of Plant Variety Protection and that part of the goodwill of the business connected

THE STATE OF TEXAS §
 §
COUNTY OF DALLAS §

BEFORE ME, the undersigned authority, on this day personally appeared Assistant Vice President of TEXAS BANK FOR COOPERATIVES, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 9th day of December, A.D., 1981.

Carolyn G. Farmer
NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS

My Commission Expires:

10-22-85

Carolyn G. Farmer


with the use of and symbolized by the Certificates, the same to be held and enjoyed by Buyer for its own use and enjoyment and the use and enjoyment of its successors, assigned by other legal representatives, and as it relates to the referenced Certificate, to enjoy to the end of the term for which said Certificates are granted or renewed, as fully and entirely as the same would have been held and enjoyed by TEXAS BANK FOR COOPERATIVES and GROWERS SEED ASSOCIATION if this assignment and sale had not been made, together with all claims for damages by reason of past infringement of said collateral or registrations with the right to sue for and collect the same for its own use and enjoyment of its successors, assigns or other legal representatives. Seller makes only those warranties and representations contained in Section 3.1 of the Asset Purchase Agreement dated December 9, 1981 between TEXAS BANK FOR COOPERATIVES and AGRIGENETICS CORPORATION.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 9th day of December, 1981.

ATTEST:

TEXAS BANK FOR
COOPERATIVES


Assistant Corporate Secretary

By: 
Assistant Vice President

ASSIGNMENT OF CERTIFICATES AND
APPLICATIONS OF PLANT VARIETY PROTECTION

WHEREAS, GROWERS SEED ASSOCIATION, a Marketing Cooperative Association organized under the terms of the State of Texas, whose address is P.O. Box 1656, Lubbock, Texas 79408, did make applications for Certificates of Plant Variety Protection with the Plant Variety Protection Office of the United States Department of Agriculture which Applications and Certificates are numbered and bear the dates as follows:

7400089	November 24, 1975	for 'GSA 71'
76TQ007	March 18, 1977	for 'GSA 75'
7100051	September 30, 1974	for Blanco 3363
7400088	November 24, 1975	for Stripper 31A
7900071	April 24, 1980	for 'GSA 74'
7900072	June 19, 1980	for 'GSA 78'

WHEREAS, GROWERS SEED ASSOCIATION sold, assigned, transferred and sent over to the TEXAS BANK FOR COOPERATIVES, a corporation organized under the laws of the United States of America, whose mailing address is P.O. Box 1424, Houston, Texas 77001, all right, title and interest in and to the said Applications and Certificates of Plant Variety Protection pursuant to an assignment dated July 28, 1981;

WHEREAS, TEXAS BANK FOR COOPERATIVES is now the sole and exclusive owner of said Applications and Certificates of Plant Variety Protection, and all interests therein, to and under the same and has the sole right to make this assignment;

WHEREAS, AGRIGENETICS CORPORATION, a corporation organized under the laws of the State of New Mexico, whose mailing address is 624 27th Street, Lubbock, Texas 79404, is desirous of acquiring the entire

right, title and interest in and to the said Applications and Certificates of Plant Variety Protection; and

WHEREAS, GROWERS SEED ASSOCIATION acknowledges TEXAS BANK FOR COOPERATIVES' right to assign the said Applications and Certificates of Plant Variety Protection and GROWERS SEED ASSOCIATION desires to join in the assignment of all right, title and interest in and to the said Applications and Certificates of Plant Variety Protection in order to transfer any and all right, title or interest it may have in the same to AGRIGENETICS CORPORATION and to resolve any uncertainty which may exist as to the true and lawful owner of the said Applications and Certificates of Plant Variety Protection (e.g. AGRIGENETICS CORPORATION);

NOW, THEREFORE, in consideration of and exchange for the sum of One and No/100 Dollars (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, GROWERS SEED ASSOCIATION, has sold, assigned, transferred and sent over to AGRIGENETICS CORPORATION, all its right, title and interest in and to the said Applications and Certificates of Plant Variety Protection, the same to be held and enjoyed by the AGRIGENETICS CORPORATION for its own use and enjoyment and the use and enjoyment of its successors, assigns or other legal representatives, to the end of the term for which said Applications and Certificates of Plant Variety Protection are granted or reissued, as fully and entirely as the same would have been held and enjoyed by GROWERS SEED ASSOCIATION and the TEXAS BANK FOR COOPERATIVES if this assignment and sale had not been made, together with all claims for damages by reason of past infringement of said Applications and Certificates with the right to

sue for and collect the same for its own use and enjoyment and for the use and enjoyment of its successors, assigns or other legal representatives.

Growers warrants and represents the following, to-wit:

(i) To the best knowledge and belief of Growers, the Bank has validly and lawfully taken possession of the said Applications and Certificates of Plant Variety Protection pursuant to applicable provisions of the Texas Business and Commerce Code and agreements with Growers;

(ii) To the best knowledge and belief of Growers, the Bank's security interest giving rise to its possession of the said Applications and Certificates of Plant Variety Protection was a valid, prior and perfected security interest; and

(iii) To the best knowledge and belief of Growers, other than those previously communicated to Buyer in writing, there are no persons other than Growers or the Bank who have had or presently have any interest in the said Applications and Certificates of Plant Variety Protection nor does there exist any other facts which prevent Buyer from obtaining, pursuant to the terms, the execution and the delivery of this Bill of Sale, good and marketable title to the said Applications and Certificates of Plant Variety Protection, free and clear of all liens, pledges, charges and encumbrances whatsoever.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this
15 day of December, 1981.

GROWERS SEED ASSOCIATION

By: R.D. McCallister
Its: Chairman of Board

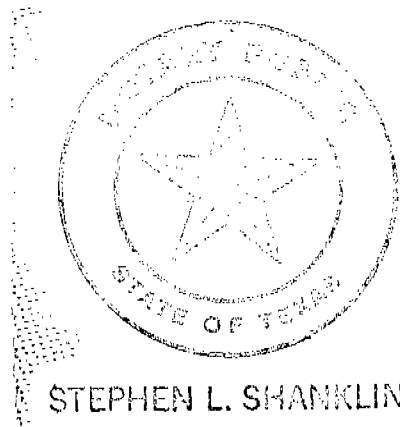
THE STATE OF TEXAS §
 §
COUNTY OF LUBBOCK §

BEFORE ME, the undersigned authority, on this day personally
appeared R.D. McCallister, ^{Chairman} of Board of GROWERS SEED
ASSOCIATION, a cooperative association, who acknowledged to me that he
executed the above and foregoing instrument as the act and deed of said
association and for the purposes and consideration therein expressed and in
the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 15 day of
December, 1981.

Stephen L. Shanklin
NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS

My commission expires:
4-3-85



Per 2.B.C. 1-22-72
Per 2.B.C. 2-9-82

CERTIFICATES AND APPLICATIONS OF PLANT VARIETY PROTECTION

ASSIGNMENT AND SECURITY AGREEMENT

I. Parties, Collateral, and Other Obligations

THIS SECURITY AGREEMENT dated December 9, 1981 between AGRIGENETICS CORPORATION, a corporation duly organized under the laws of the State of New Mexico (the "Corporation"), having a mailing address at 14142 W. 20th Avenue, Golden, Colorado 80401 and the TEXAS BANK FOR COOPERATIVES (the "Bank") having a mailing address at P.O. Box 1424, Houston, Harris County, Texas.

PURSUANT to the terms and provisions of the Repayment Agreement of even date herewith between Corporation and the Bank, the Bank has agreed to lend to Corporation the sum of One Million Five Hundred Thousand and no/100 Dollars (\$1,500,000.00) at any time outstanding, and part of the inducement for the Bank to make such loan is the execution by Corporation of the Security Agreement of even date herewith (the "Agreement"), and this Security Agreement for filing with the Plant Variety Protection Office of the United States Department of Agriculture, such indebtednesses to be evidenced by promissory note ("Note") of even date herewith payable to the order of the Bank, and payment of the Note and any other Obligations of Corporation to the Bank pursuant to the Repayment Agreement of even date herewith are to be secured by, among other things, the security interests created hereby.

NOW, THEREFORE, in consideration of the premises, and as an inducement to the Bank to enter into the Repayment Agreement and to make the loans contemplated thereby, the Corporation hereby agrees with the Bank as follows: In order to secure payment of the Note and other Obligations (as defined in the Agreement), the Corporation hereby pledges, assigns and grants to the Bank a continuing security interest in and lien on all of the Applications and Certificates of Plant Variety Protection made with the Plant Variety Protection Office of the U.S. Department of Agriculture which Applications and Certificates are numbered and bear the dates as listed below with the right to sue, in Bank's own name or joined with Corporation, for past, present, or future violations of the rights in the protected varieties.

7400089
76TQ007

November 24, 1975
March 18, 1977

for 'GSA 71'
for 'GSA 75'

7100051
7400088
7900071
7900072

September 30, 1974
November 24, 1975
April 24, 1980
June 19, 1980

for Blanco 3363
for Stripper 31A
for 'GSA 74'
for 'GSA 78'

II. Prosecution and Maintenance of Trademarks

Corporation shall diligently apply for, prosecute, maintain and preserve its rights in the above trademarks, all expenses of which shall be borne by Corporation.

III. Termination

Upon the payment in full of all accounts due under the Note and all other Obligations of the Corporation due under the Agreement and this Security Agreement to the Bank, the Bank shall execute and deliver to the Corporation all such documents and instruments as shall be necessary to evidence termination of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be duly executed by their authorized representatives as of the date first above written.

ATTEST:

AGRIGENETICS CORPORATION

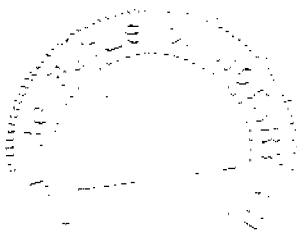
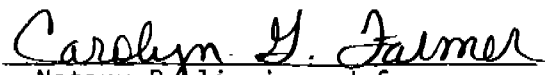

Secretary

By 

THE STATE OF TEXAS
COUNTY OF Dallas

BEFORE ME, the undersigned authority, on this day personally appeared James O. Gilbreath Jr., Vice President of Agrigenetics Corporation known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and in the capacity therein shown.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 9th day of December, A.D., 1981.



Notary Public in and for
County, T E X A S.

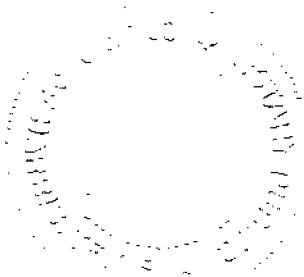
Carolyn G. Farmer
Expires: 10-22-85

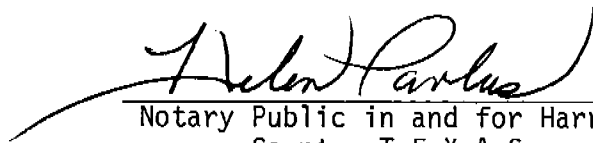
THE STATE OF TEXAS

COUNTY OF HARRIS

BEFORE ME, the undersigned authority, on this day personally appeared James O. Gilbreath, Jr., Vice President of Agrigenetics Corporation, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and in the capacity therein shown.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 9th day of February, A.D., 1982.




Notary Public in and for Harris
County, T E X A S.

HELEN PAVLAS
Notary Public State of Texas
My Commission Expires January 31, 1985
Bonded by L. Alexander Lovett, Lawyers Surety Corp.

State of Colorado)
) ss
County of Boulder)

CERTIFICATE

I, Andrea Ryder, a notary public in and for the aforesaid county and state, hereby certify that the attached photocopy of an Assignment of Certificates and Applications of Plant Variety Protection is a true copy of the original thereof.



Notary Public

My commission expires August 16, 1988.

ASSIGNMENT OF CERTIFICATES AND
APPLICATIONS OF PLANT VARIETY PROTECTION

WHEREAS, GROWERS SEED ASSOCIATION, a Marketing Cooperative Association organized under the terms of the State of Texas, whose address is P.O. Box 1656, Lubbock, Texas 79408, did make applications for Certificates of Plant Variety Protection with the Plant Variety Protection Office of the United States Department of Agriculture which Applications and Certificates are numbered and bear the dates as follows:

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7400088	November 24, 1975	for Stripper 31A
7900071	April 24, 1980	for 'GSA 74'
7900072	June 19, 1980	for 'GSA 78'

WHEREAS, GROWERS SEED ASSOCIATION sold, assigned, transferred and sent over to the TEXAS BANK FOR COOPERATIVES, a corporation organized under the laws of the United States of America, whose mailing address is P.O. Box 1424, Houston, Texas 77001, all right, title and interest in and to the said Applications and Certificates of Plant Variety Protection pursuant to an assignment dated July 28, 1981;

WHEREAS, TEXAS BANK FOR COOPERATIVES is now the sole and exclusive owner of said Applications and Certificates of Plant Variety Protection, and all interests therein, to and under the same and has the sole right to make this assignment;

WHEREAS, AGRIGENETICS CORPORATION, a corporation organized under the laws of the State of New Mexico, whose mailing address is 624 27th Street, Lubbock, Texas 79404, is desirous of acquiring the entire

right, title and interest in and to the said Applications and Certificates of Plant Variety Protection; and

WHEREAS, GROWERS SEED ASSOCIATION acknowledges TEXAS BANK FOR COOPERATIVES' right to assign the said Applications and Certificates of Plant Variety Protection and GROWERS SEED ASSOCIATION desires to join in the assignment of all right, title and interest in and to the said Applications and Certificates of Plant Variety Protection in order to transfer any and all right, title or interest it may have in the same to AGRIGENETICS CORPORATION and to resolve any uncertainty which may exist as to the true and lawful owner of the said Applications and Certificates of Plant Variety Protection (e.g. AGRIGENETICS CORPORATION);

NOW, THEREFORE, in consideration of and exchange for the sum of One and No/100 Dollars (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, GROWERS SEED ASSOCIATION, has sold, assigned, transferred and sent over to AGRIGENETICS CORPORATION, all its right, title and interest in and to the said Applications and Certificates of Plant Variety Protection, the same to be held and enjoyed by the AGRIGENETICS CORPORATION for its own use and enjoyment and the use and enjoyment of its successors, assigns or other legal representatives, to the end of the term for which said Applications and Certificates of Plant Variety Protection are granted or reissued, as fully and entirely as the same would have been held and enjoyed by GROWERS SEED ASSOCIATION and the TEXAS BANK FOR COOPERATIVES if this assignment and sale had not been made, together with all claims for damages by reason of past infringement of said Applications and Certificates with the right to

sue for and collect the same for its own use and enjoyment and for the use and enjoyment of its successors, assigns or other legal representatives.

Growers warrants and represents the following, to-wit:

(i) To the best knowledge and belief of Growers, the Bank has validly and lawfully taken possession of the said Applications and Certificates of Plant Variety Protection pursuant to applicable provisions of the Texas Business and Commerce Code and agreements with Growers;

(ii) To the best knowledge and belief of Growers, the Bank's security interest giving rise to its possession of the said Applications and Certificates of Plant Variety Protection was a valid, prior and perfected security interest; and

(iii) To the best knowledge and belief of Growers, other than those previously communicated to Buyer in writing, there are no persons other than Growers or the Bank who have had or presently have any interest in the said Applications and Certificates of Plant Variety Protection nor does there exist any other facts which prevent Buyer from obtaining, pursuant to the terms, the execution and the delivery of this Bill of Sale, good and marketable title to the said Applications and Certificates of Plant Variety Protection, free and clear of all liens, pledges, charges and encumbrances whatsoever.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this
15 day of December, 1981.

GROWERS SEED ASSOCIATION

By: R.D.M. Callister
Its: Chairman of Board

THE STATE OF TEXAS §
 §
COUNTY OF LUBBOCK §

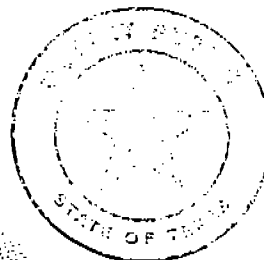
BEFORE ME, the undersigned authority, on this day personally
appeared R.D. McCallister, ^{Chairman} of Board of GROWERS SEED
ASSOCIATION, a cooperative association, who acknowledged to me that he
executed the above and foregoing instrument as the act and deed of said
association and for the purposes and consideration therein expressed and in
the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 15 day of
December, 1981.

Stephen L. Shanklin
NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS

My commission expires:

4-3-85



STEPHEN L. SHANKLIN

15
16
17
18
19

State of Colorado)
) ss
County of Boulder)

CERTIFICATE

I, Andrea Ryder, a notary public in and for the aforesaid county and state, hereby certify that the attached photocopy of the Articles of Merger of Agrigenetics Corporation (New Mexico) into Agrigenetics Corporation (Delaware) is a true copy of the original thereof.



Notary Public

My commission expires August 16, 1988.

STATE OF NEW MEXICO

CERTIFICATE OF COMPARISON
OF

AGRIGENETICS CORPORATION

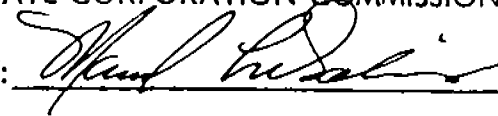
STATE OF NEW MEXICO

I hereby certify that the annexed is a true and complete copy of the 12 page document on file in this office.

DATED: August 31, 1982

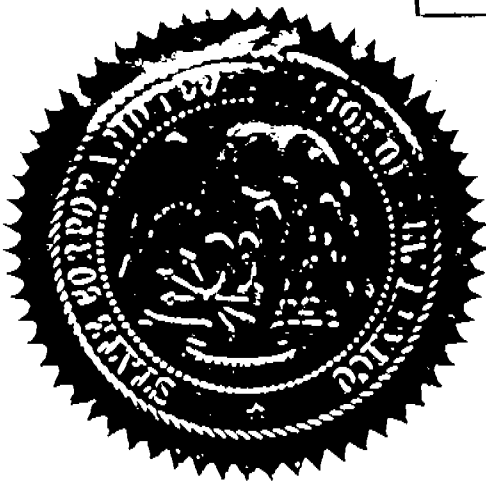
STATE CORPORATION COMMISSION

BY:

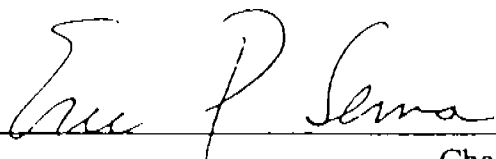


This Certification Stamp Replaces Our Previous Certification System.

NMSA 53-18-4 and 53-8-93 Effective 11-1-80



In Testimony Whereof, the State Corporation Commission of the State of New Mexico has caused this certificate to be signed by its Chairman and the seal of said Commission to be affixed at the City of Santa Fe



Chairman

ARTICLES OF MERGER

of

AGRIGENETICS CORPORATION
(New Mexico)

into

AGRIGENETICS' CORPORATION
(Delaware)

RECEIVED
STATE COMMISSION
ON FRANCHISES
JUL 21 1982

AUG 11 1982

CORPORATION
FRANCHISE TAX DEPT.

The undersigned officers of Agrigenetics Corporation, a New Mexico corporation, ("Agrigenetics New Mexico") and of Agrigenetics Corporation, a Delaware corporation, ("Agrigenetics Delaware") hereby certify as follows:

1. Agrigenetics New Mexico and Agrigenetics Delaware duly adopted and entered into the Plan and Agreement of Merger, dated August 2, 1982, a copy of which is attached hereto.

2. As to Agrigenetics New Mexico there are and were at all times relevant to the merger 9,580,964 shares of Common Stock, \$.10 par value, outstanding and no shares of Special Class A stock outstanding.

3. As to Agrigenetics Delaware, there were no shares outstanding at the time of the approval of the Plan and Agreement of Merger.

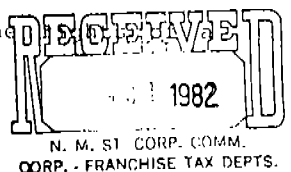
4. As to Agrigenetics New Mexico 8,281,485 shares of Common Stock, \$.10 par value, voted for the Plan and Agreement of Merger and no shares voted against the Plan and Agreement of Merger.

5. As to Agrigenetics Delaware the Plan and Agreement of Merger was duly approved by the Board of Directors pursuant to Delaware law prior to the issuance of any stock.

6. Agrigenetics Delaware hereby agrees that it may be served with process in New Mexico in any proceeding for the enforcement of any obligation of Agrigenetics New Mexico and

in any proceeding for the enforcement of the

AUG 31 1982



dissenting shareholder of Agrigenetics New Mexico against Agrigenetics Delaware.

7. Agrigenetics Delaware hereby irrevocably appoints the Secretary of State of New Mexico as its agent to accept service of process in any proceeding described in the preceding paragraph.

8. Agrigenetics Delaware will promptly pay to any dissenting shareholders of Agrigenetics New Mexico the amount, if any, to which such dissenting shareholder is entitled under the provisions of the New Mexico Business Corporation Act with respect to the rights of dissenting shareholders.

IN WITNESS WHEREOF, we have executed on behalf of Agrigenetics New Mexico and Agrigenetics Delaware, these Articles of Merger this 31st day of August, 1982.

AGRIGENETICS CORPORATION
A New Mexico Corporation

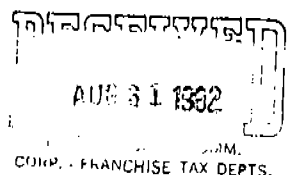
By Murray Palmen
Vice President

By James B. Almy
Secretary

AGRIGENETICS CORPORATION
A Delaware Corporation

By Murray Palmen
Vice President

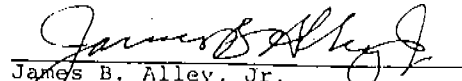
By James B. Almy
Secretary




Verification

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

JAMES B. ALLEY, JR., Secretary of Agrigenetics Corporation, a New Mexico corporation, and Secretary of Agrigenetics Corporation, a Delaware corporation, states that he has read the foregoing Articles of Merger and that the statements therein are true and correct to the best of his knowledge and belief.

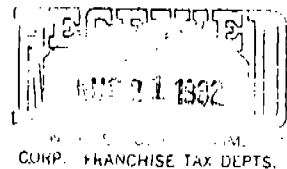

James B. Alley, Jr.

Subscribed and sworn to before me this 31st day of August, 1982.


Notary Public

My Commission expires:

8-22-83



PLAN AND AGREEMENT OF MERGER

THIS PLAN AND AGREEMENT OF MERGER ("Merger Agreement") is made and entered into this 2nd day of August, 1982 by and between AGRIGENETICS CORPORATION, a New Mexico corporation ("Agrigenetics New Mexico"), and AGRIGENETICS CORPORATION, a Delaware corporation and a wholly owned subsidiary of Agrigenetics New Mexico ("Agrigenetics Delaware").

WHEREAS, Agrigenetics New Mexico is a corporation duly organized and existing under the laws of the State of New Mexico;

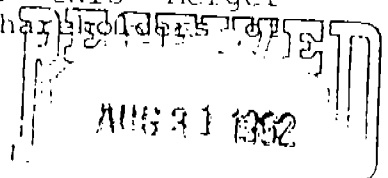
WHEREAS, Agrigenetics Delaware is a corporation duly organized and existing under the laws of the State of Delaware;

WHEREAS, on the date of this Merger Agreement Agrigenetics New Mexico has authority to issue twenty million four hundred fifty thousand shares, consisting of four hundred fifty thousand shares of Special Class A Stock, par value \$.10 per share ("New Mexico Special Class A Stock"), of which no shares are issued and outstanding; and twenty million shares of Common Stock, par value \$.10 per share ("New Mexico Common Stock"), of which 9,580,964 shares are issued and outstanding;

WHEREAS, on the date of this Merger Agreement Agrigenetics Delaware has authority to issue twenty-one million shares, consisting of one million shares of Special Class A Stock \$.10 par value ("Delaware Special Class A Stock"), of which no shares are issued and outstanding; and twenty million shares of Common Stock, par value \$.10 per share ("Delaware Common Stock"), of which ten shares are issued and outstanding and owned by Agrigenetics New Mexico;

WHEREAS, the respective Boards of Directors of Agrigenetics New Mexico and Agrigenetics Delaware have determined that it is advisable and to the advantage of said two corporations that Agrigenetics New Mexico merge into Agrigenetics Delaware upon the terms and conditions herein provided for the purpose of effecting the reincorporation of Agrigenetics New Mexico in the State of Delaware; and

WHEREAS, the respective Boards of Directors of Agrigenetics New Mexico and Agrigenetics Delaware have approved this Merger Agreement and the board of directors of Agrigenetics New Mexico has directed that this Merger Agreement be submitted to a vote of the shareholders of Agrigenetics New Mexico;



SECRETARY'S OFFICE

NOW, THEREFORE, in consideration of the mutual agreements and covenants set forth herein, Agrigenetics New Mexico and Agrigenetics Delaware hereby agree to merge as follows:

1. Merger. Agrigenetics New Mexico shall be merged with and into Agrigenetics Delaware, and Agrigenetics Delaware shall survive the merger ("Merger"). The Merger shall become effective upon the time and date of filing of such documents as may be required under applicable law ("Effective Date").

2. Directors and Officers and Governing Documents. The directors and officers of Agrigenetics Delaware shall be the same upon the Effective Date as they are immediately prior thereto. The Certificate of Incorporation of Agrigenetics Delaware, as in effect on the Effective Date, shall continue to be the Certificate of Incorporation of Agrigenetics Delaware as the surviving corporation without change or amendment until further amended in accordance with the provisions thereof and applicable laws. The By-Laws of Agrigenetics Delaware, as in effect on the Effective Date, shall continue to be the By-Laws of Agrigenetics Delaware as the surviving corporation without change or amendment until further amended in accordance with the provisions thereof and applicable laws.

3. Succession. On the Effective Date, Agrigenetics Delaware shall succeed to all the rights and obligations of Agrigenetics New Mexico and shall possess all the rights, privileges, powers and franchises as well of a public as of a private nature, and be subject to all the restrictions, disabilities and duties of Agrigenetics New Mexico; and all and singular, the rights, privileges, powers and franchises of Agrigenetics New Mexico, and all property, real, personal and mixed, and all debts due to Agrigenetics New Mexico on whatever account, as well for stock subscriptions as all other things in action or belonging to Agrigenetics New Mexico shall be vested in Agrigenetics Delaware; and all property, rights, privileges, powers and franchises, and all and every other interest shall be thereafter as effectually the property of Agrigenetics Delaware as they were of Agrigenetics New Mexico, and the title to any real estate vested by deed or otherwise in Agrigenetics New Mexico, shall not revert or be in any way impaired; but all rights of creditors and all liens upon any property of Agrigenetics New Mexico shall be preserved unimpaired, and all debts, liabilities and duties of Agrigenetics New Mexico shall thenceforth attach to Agrigenetics Delaware, and may be enforced against it to the same extent as if said debts, liabilities and duties had been incurred or contracted by it. All corporate acts, plans, policies, agreements, arrangements, approvals and authorizations of Agrigenetics New Mexico, its shareholders, board of directors and committees thereof, officers and agents which were valid and effective immediately prior

to the Effective Date, shall be taken for all purposes as the acts, plans, policies, agreements, arrangements, approvals and authorizations of Agrigenetics Delaware and shall be as effective and binding thereon as the same were with respect to Agrigenetics New Mexico. The employees and agents of Agrigenetics New Mexico shall become the employees and agents of Agrigenetics Delaware and continue to be entitled to the same rights and benefits which they enjoyed as employees and agents of Agrigenetics New Mexico. The requirements of any plans or agreements of Agrigenetics New Mexico involving the issuance or purchase by Agrigenetics New Mexico of certain shares of its capital stock shall be satisfied by the issuance or purchase of a like number of shares of Agrigenetics Delaware.

4. Further Assurances. From time to time, as and when required by Agrigenetics Delaware or by its successors and assigns, there shall be executed and delivered on behalf of Agrigenetics New Mexico such deeds and other instruments, and there shall be taken or caused to be taken by it all such further and other action, as shall be appropriate or necessary in order to vest, perfect or confirm, of record or otherwise, in Agrigenetics Delaware the title to and possession of all property, interests, assets, rights, privileges, immunities, powers, franchises and authority of Agrigenetics New Mexico, and otherwise to carry out the purposes of this Merger Agreement, and the officers and directors of Agrigenetics Delaware are fully authorized in the name and on behalf of Agrigenetics New Mexico or otherwise to take any and all such action and to execute and deliver any and all such deeds and other instruments.

5. Stock of Agrigenetics New Mexico. Upon the Effective Date, by virtue of the Merger and without any action on the part of the holder hereof, each share of the New Mexico Common Stock outstanding immediately prior thereto shall be changed and converted into and shall be one fully paid and nonassessable share of the Delaware Common Stock.

6. Stock Certificates. On and after the Effective Date, all of the outstanding certificates which immediately prior to the Effective Date represented shares of New Mexico Common Stock shall be deemed for all purposes to evidence ownership of, and to represent, shares of Delaware Common Stock into which the shares of New Mexico Common Stock formerly represented by such certificates have been converted as herein provided. The registered owner on the books and records of Agrigenetics Delaware or its transfer agents of any such outstanding stock certificate shall, until such certificate shall have been surrendered for transfer or otherwise accounted for to Agrigenetics Delaware or its transfer agents, have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the shares of Agrigenetics

Delaware Common Stock evidenced by such outstanding certificate as above provided.

7. Outstanding Options (Class A). Forthwith upon the Effective Date, each outstanding option to purchase shares of New Mexico Special Class A Stock granted under Agrigenetics New Mexico's Incentive Stock Option Plan (the "Plan") shall be converted into and become an option to purchase the same number of shares of Delaware Special Class A Stock at the same option price per share, and upon the same terms and subject to the same conditions as set forth in the Plan, as in effect on the Effective Date. The same number of shares of Delaware Special Class A Stock shall be reserved for purposes of the Plan as is equal to the number of shares of New Mexico Special Class A Stock so reserved as of the Effective Date. As of the Effective Date, Agrigenetics Delaware shall assume all obligations of Agrigenetics New Mexico under the Plan and the outstanding options or portions thereof granted pursuant to the Plan.

8. Outstanding Warrants (Common). Forthwith upon the Effective Date, any outstanding warrants or other options to purchase shares of New Mexico Common Stock shall entitle the holders to purchase the same number of shares of Delaware Common Stock upon the same terms and conditions as provided in the outstanding warrants or other applicable documents to which Agrigenetics New Mexico is a party.

9. Employee Benefit Plans. As of the Effective Date, Agrigenetics Delaware hereby assumes all obligations of Agrigenetics New Mexico under any and all employee benefit plans in effect as of said date or with respect to which employee rights or accrued benefits are outstanding as of said date.

10. Common Stock of Agrigenetics Delaware. Forthwith upon the Effective Date, the ten shares of Delaware Common Stock presently issued and outstanding in the name of Agrigenetics New Mexico shall be cancelled and retired and resume the status of authorized and unissued shares of Delaware Common Stock, and no shares of Delaware Common Stock or other securities of Agrigenetics Delaware shall be issued in respect thereof.

11. Covenants of Agrigenetics Delaware. Agrigenetics Delaware covenants and agrees that it will, on or before the Effective Date:

(a) Qualify to do business as a foreign corporation in the State of New Mexico, and in connection therewith irrevocably appoint an agent for service of process as required under the provision of Section 53-17-9 of the New Mexico Business Corporation Act.

(b) File any and all documents with the New Mexico State Corporation Commission necessary to the assumption by Agrigenetics Delaware of all the franchise tax liabilities of Agrigenetics New Mexico.

(c) Qualify to do business as a foreign corporation in the states where Agrigenetics New Mexico is qualified to do business and such other states as the board of directors deems necessary or desirable.

12. Book Entries. As of the Effective Date, entries shall be made upon the books of Agrigenetics Delaware in accordance with the following:

(a) The assets and liabilities of Agrigenetics Delaware shall be recorded at the same amounts at which they were carried on the books of Agrigenetics New Mexico immediately prior to the Effective Date, with appropriate adjustments to reflect the retirement of the ten shares of Delaware Common Stock presently issued and outstanding.

(b) There shall be credited to the Common Stock account of Agrigenetics Delaware the aggregate amount of the par value of all shares of Delaware Common Stock resulting from the conversion of the outstanding New Mexico Common Stock pursuant to the Merger.

(c) There shall be credited to the additional paid-in capital account of Agrigenetics Delaware the aggregate of the amount carried in the additional paid-in capital account of Agrigenetics New Mexico immediately prior to the Effective Date.

(d) There shall be credited to the retained earnings account of Agrigenetics Delaware the aggregate of the amount carried in the retained earnings account of Agrigenetics New Mexico immediately prior to the Effective Date.


13. Amendment. At any time before or after approval and adoption by the shareholders of Agrigenetics New Mexico and prior to the Effective Date, the Merger Agreement may be amended in any manner (except that Section 5 may not be amended without the approval of the shareholders of Agrigenetics New Mexico) as may be determined in the judgment of the respective Boards of Directors of Agrigenetics Delaware and Agrigenetics New Mexico to be necessary, desirable or expedient in order to clarify the intention of the parties hereto or to effect or facilitate the purposes and intent of this Merger Agreement; provided, however, that such amendment may not materially adversely affect the rights and interests of the stockholders of Agrigenetics New Mexico.

14. Abandonment. At any time before the Effective Date, this Merger Agreement may be terminated and the Merger may be abandoned by the board of directors of either Agrigenetics Delaware or Agrigenetics New Mexico or both, notwithstanding approval of this Merger Agreement by the stockholders of Agrigenetics Delaware or the shareholders of Agrigenetics New Mexico or both.

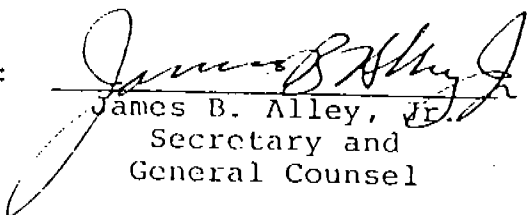
15. Counterparts. In order to facilitate the filing and recording of this Merger Agreement the same may be executed in two or more counterparts, each of which shall be deemed to be an original and the same agreement.

IN WITNESS WHEREOF, this Merger Agreement, having first been duly approved by resolution of the boards of directors of Agrigenetics New Mexico and Agrigenetics Delaware, is hereby executed on behalf of each of said two corporations by their respective officers thereunto duly authorized, on the date first above written.

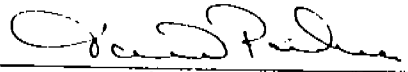
AGRIGENETICS CORPORATION
A New Mexico Corporation

By: 
David J. Padwa
Chairman of the Board and
Chief Executive Officer

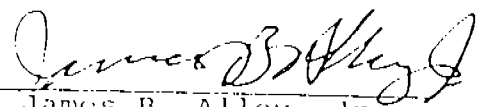
ATTEST:

By: 
James B. Alley, Jr.
Secretary and
General Counsel

AGRIGENETICS CORPORATION
A Delaware Corporation

By: 
David J. Padwa
Chairman of the Board and
Chief Executive Officer

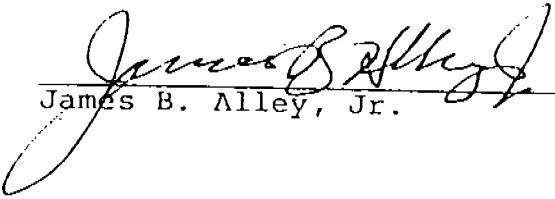
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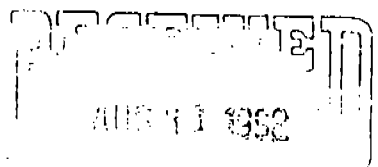
By: 
James B. Alley, Jr.
Secretary and
General Counsel

Certificate of Secretary

I, James B. Alley, Jr., Secretary of AGRIGENETICS CORPORATION, a Delaware corporation, hereby certify, as such Secretary, that no vote of the stockholders of said corporation was required with respect to the merger described in the Plan and Agreement of Merger to which this Certificate is attached and that said Plan and Agreement of Merger has been adopted pursuant to Subsection 251(f) of the General Corporation Law of the State of Delaware and that as of the date of this Certificate, the outstanding shares of said corporation were such as to render that subsection applicable.

IN WITNESS WHEREOF, I have executed this Certificate on behalf of said corporation this 2nd day of August, 1982.

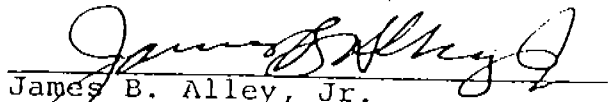

James B. Alley, Jr.



Certificate of Secretary

I, James B. Alley, Jr., Secretary of AGRIGENETICS CORPORATION, a New Mexico corporation ("Agrigenetics New Mexico"), do hereby certify, as such Secretary, that the Plan and Agreement of Merger to which this Certificate is attached, after having been first duly adopted and executed by Agrigenetics New Mexico and AGRIGENETICS CORPORATION, a Delaware corporation, was duly submitted to the stockholders of Agrigenetics New Mexico at a meeting of stockholders called for the purpose of acting on said Plan and Agreement of Merger after due notice of the time, place and purpose of said meeting was mailed to each holder of common stock of Agrigenetics New Mexico at his address as it appears on the records of Agrigenetics New Mexico in the manner provided by New Mexico law, and that at said meeting the Plan and Agreement of Merger was considered and a vote taken for its adoption or rejection and that at said meeting at least two-thirds of the outstanding common stock of Agrigenetics New Mexico entitled to vote thereon was voted for the adoption of said Plan and Agreement of Merger, and that at the time of said meeting no Special Class A stock was outstanding, and that thereby said Plan and Agreement of Merger was at said meeting duly adopted as the act of the stockholders of Agrigenetics New Mexico and as the agreement and act of Agrigenetics New Mexico.

IN WITNESS WHEREOF, I have executed this Certificate on behalf of said corporation this 27th day of August, 1982.


James B. Alley, Jr.

Second Execution of Plan and Agreement of Merger

The foregoing Plan and Agreement of Merger having been duly adopted and executed by AGRIGENETICS CORPORATION, a Delaware corporation ("Agrigenetics Delaware"), and by AGRIGENETICS CORPORATION, a New Mexico corporation ("Agrigenetics New Mexico"), in accordance with the General Corporation Law of the State of Delaware, and having been duly submitted to the stockholders of Agrigenetics New Mexico and having been duly adopted by the requisite vote of the outstanding stock of said corporation entitled to vote thereon, and no vote of the stockholders of Agrigenetics Delaware having been required, and those facts having been certified on said Plan and Agreement of Merger by the Secretary of Agrigenetics Delaware and by the Secretary of Agrigenetics New Mexico, the Chairman of the Board of Agrigenetics Delaware and the Chairman of the Board of Agrigenetics New Mexico do hereby execute said Plan and Agreement of Merger in accordance with the General Corporation Law of the State of Delaware, and the Secretary of Agrigenetics Delaware and the Secretary of Agrigenetics New Mexico do hereby attest such execution of their respective corporations as the respective act, deed and agreement of each of said corporations, on this 27th day of August, 1982.

AGRIGENETICS CORPORATION
A Delaware Corporation

By David J. Padwa
David J. Padwa
Chairman of the Board

ATTEST:

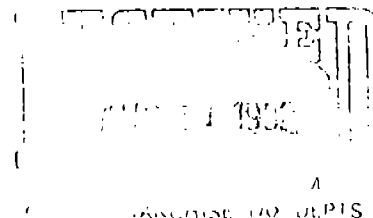
By James B. Alley, Jr.
James B. Alley, Jr.
Secretary

AGRIGENETICS CORPORATION
A New Mexico Corporation

By David J. Padwa
David J. Padwa
Chairman of the Board

ATTEST:

By James B. Alley, Jr.
James B. Alley, Jr.
Secretary



NOTE: Full merger documentation is on
file in transfer file.

For: Cotton Variety GSC 30)
Certificate No.: 8800048)
Issue Date: July 29, 1988)
Owner: Agrigenetics Corporation)

710005

REQUEST FOR RECORDATION OF TITLE DOCUMENTS

Commissioner of the Plant
Variety Protection Office
United States Department
of Agriculture
10301 Baltimore Blvd.
Beltsville, MD 20705-2351

Sir:

Enclosed please find notarially certified copies of the
following merger documents:

1) merger of Agrigenetics Corporation, a New Mexico
Corporation into Agrigenetics Corporation, a Delaware Corporation;
and

2) merger of Agrigenetics Corporation, a Delaware
Corporation into The Lubrizol Corporation Corporation, an Ohio
Corporation.

Please record these documents against the above Plant
Variety Protection Certificates.

Title to said certificates should now be reflected in
Lubrizol Corporation, an Ohio Corporation.

Enclosed is a check in the amount of \$275.00 for the
recording fee (\$25.00 for each certificate).

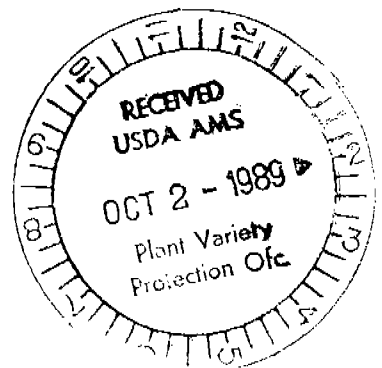
Respectfully submitted,

Ellen P. Winner

Ellen P. Winner
Patent Office Reg. No. 28,547

Greenlee and Associates
5370 Manhattan Circle
Suite 201
Boulder, CO 80303
(303) 499-8080

leb: 9/28/89



STATE OF COLORADO)
) SS.
COUNTY OF BOULDER)

I, Andrea Ryder, notary public for the above county and state, certify that the attached copies of merger documents showing merger of Agrigenetics Corporation, a New Mexico Corporation, into Agrigenetics Corporation, a Delaware Corporation; and Agrigenetics Corporation, a Delaware Corporation into The Lubrizol Corporation, an Ohio Corporation are true and correct copies of the originals thereof, which were filed with the Delaware Secretary of State.

Subscribed and sworn to before me in the County of Boulder, State of Colorado, this 28th day of September, 1989.

Andrea Ryder

My Commission expires August 16, 1992

IN THE UNITED STATES DEPARTMENT OF AGRICULTURE

For: Cotton Variety Blanco 3363)
 Certificate No.: 7100051)
 Issue Date: September 30, 1974)
 Owner: Agrigenetics Corporation)

For: Cotton Variety Stripper 31A)
 Certificate No.: 7400088)
 Issue Date: November 24, 1975)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSA 71)
 Certificate No.: 7400089)
 Issue Date: November 24, 1975)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSA 75)
 Certificate No.: 7605007)
 Issue Date: March 18, 1977)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSA 74)
 Certificate No.: 7900091)
 Issue Date: April 24, 1980)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSA 78)
 Certificate No.: 7900072)
 Issue Date: June 19, 1980)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSC 25)
 Certificate No.: 8400057)
 Issue Date: December 21, 1984)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSC 20)
 Certificate No.: 8400101)
 Issue Date: November 30, 1984)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSC 27)
 Certificate No.: 8700005)
 Issue Date: August 31, 1987)
 Owner: Agrigenetics Corporation)

For: Cotton Variety GSC 71)
 Certificate No.: 8700006)
 Issue Date: August 31, 1987)
 Owner: Agrigenetics Corporation)

